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EXAMINER
HO, THOMAS M

ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/6/04*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16, 23-33, 41-43, 45 and 47-49* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16, 23-33, 41-43, 45 and 47-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   **Claims 1-16, 23-33, 41-43, 45, 47-49 are pending.**

2.   **The amendments of 12/06/04 have been received and entered.**

Response to Arguments

3.   Applicants arguments have been considered but they are not persuasive.

Applicant has argued the following on pages 9-10:

However, at column 8, lines 45-47 Matsui discloses a formula

(Smax/Mloop)+1/DwXDw<Cycle

for obtaining a scrambling signal, wherein Smax denotes the number of sectors included

in the innermost circumferential track, Mloop denotes the number of times that one

scrambling signal is repeated continuously, Dw denotes an offset width between the

initial value of an M period sequence and that of a next M period sequence and Cycle

denotes the maximum number of sectors expressed by the cyclic period of an M period

sequence (column 4, lines 25-36).

        That is, Matsui discloses a formula for scrambling a signal by dividing the

number of sectors included in the innermost circumferential track by the number of times

that one scrambling signal is repeated continuously and then adding that result by

multiplying an offset width between the initial value of an M period sequence and that of

a next M period sequence, wherein this result is less than the maximum number of sectors

expressed by the cyclic period of an M period sequence.

Accordingly, Matsui fails to teach or suggest "multiplying at least a size of a first

data frame by a result obtained by dividing a data amount of two tracks in an outermost

circumference of the optical disc by a size of a second data frame," as recited in

independent claim 1.

The Examiner contends that Matsui does indeed disclose "multiplying at least a size of a

first data frame by a result obtained by dividing a data amount of two tracks in an

outermost circumference of the optical disc by a size of a second data frame". Matsui

explicitly discloses that Smax, denotes the number of sectors included in the outermost

track. (Column 4, lines 25-30). Applicant has cited the same passage in arguments,

however is it clearly stated that Smax denotes the sectors in the outermost track, and not

the inner most as applicant appears to be asserting.

Furthermore, Matsui (Column 8, lines 26-40) clearly states that the last two outermost

tracks are to be considered and interpreted for use in the equations. "In practice, the

outermost circumference track and the adjacent track must be considered."

Applicants additional arguments seem to be grounded in the same objection.

Applicants arguments are not persuasive, and the rejection is maintained.

4.   The Examiner shall make known to the record the following: the particular

phrase "and/or" recited in independent claims 41, 43, 45, while normally rendering a

claim vague and indefinite under 35 USC § 112, is acceptable with reference to the way it

is used in the claims and with regard to the background of the art. It is well known to the

general public that high density optical recording apparatuses, such as DVD burners, are

also well known as DVD copiers. For this reason, the phrase "high density optical

recording and/or reproducing apparatus", will not be objected to.

37 CFR 1.105 INFORMATION REQUEST

5.   Applicant and the assignee of this application are required under 37 CFR 1.105 to

provide the following information that the examiner has determined is reasonably

necessary to the examination of the new claims 47-49.

- Information regarding current scrambling systems in high density optical

  recording apparatuses---in particular standards, such as the ECMA

  documents which disclose the industry specifications and norms for how

  DVD scramblers function.

- Information regarding high density optical disks formatted such that

  sectors are 2KBs in size, and the ECC blocks are 64 KBs in size. In the

  new claims 47-49, applicant has recited, presumably, an optical disk

  formatted as such. It is evident from the specification and the new claims

  that applicant does not consider such a formatted DVD/CD to be a part of

  his or her invention. The applicant refers to such a format as a mere

variant on a high density optical disk format, suggesting that Applicant has

knowledge that these formatted optical disks are well known and present

in the art.

In further response to this requirement, please provide the title, citation and copy of each

publication that any of the applicants relied upon to develop the disclosed subject matter

that describes the applicant's invention. For each publication, please provide a concise

explanation of the reliance placed on that publication in the development of the disclosed

subject matter.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claims 1-16, 23-33, 41-43, 45, 47-49 are rejected under 35 U.S.C. 112, second

paragraph, as being incomplete for omitting essential structural cooperative relationships

of elements, such omission amounting to a gap between the necessary structural

connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

the structural elements and relationships for a data scrambler and the optical apparatus.

While random data generation and scrambling are similar, they are not identical.

The applicant has claimed a data scrambler in claim 1, however the claimed limitations only recite a random data generator, and fail to recite any scrambling mechanism. Therefore upon further examination, the Examiner has determined that essential structural elements are missing, and the scrambler as claimed in claim 1 is incapable of actually scrambling data and only has random data generation capabilities.

Claims 41, 43, 45, while reciting a scrambling circuit, still fail to recite essential elements necessary for a data scrambler in a high density optical recording and/or reproducing apparatus. Claims 41, 43, 45 all recite "a scrambling circuit to scramble the random data". However, the essential structural elements to relate the scrambling circuit to the actual DVD device are missing.

The phrase "data scrambler for a high density optical recording and/or reproducing apparatus" is understood by those skilled in the art to refer to a data scrambler used to scramble data on an optical disk. It is evident from Applicant's specification, and from general knowledge in the art that the purpose of the data scrambler is ultimately used in some manner to scramble data on or for an optical disk.

A data scrambler for an optical disk apparatus must actually scramble the data for the optical disk.

Applicant however has only recited "a scrambling circuit to scramble the random data". The data on or for the optical disk is never altered in any way. In view of the fact that

applicant recites the limitation: "data scrambler **for** a high density optical recording

and/or reproducing apparatus", and in view of the understanding from the background art

and specification that the purpose of a data scrambler is to scramble the information on

an optical disk, the Examiner holds that essential structural elements critical to the

invention are missing in the claims.

Claim 47 is rejected for the same reasons as claim 1.

Claim 47 is still further rejected on the basis that it omits the essential structural

relationships needed for a "sector" or an "ECC block". From the specification, it is

evident that Applicant recites "Sector" and "ECC block" to mean the sectors and ECC

blocks of an optical disk apparatus, and in particular a high density optical disk apparatus.

However Applicant has worded claim 47 to recite:

A data scrambler comprising:

A random data generator for generating random data in the cycle of 32KB in order to

scramble data having structure of 2kb for a sector or a data frame and 64KB for an ECC

block.

No structural relationships relating the sector or ECC block to an optical disk format is

given, yet the claim appears to recite a limitation that is specific only to optical disks.

In the absence of an optical disk recitation or structural relationship, any 2kb of

information may be considered a sector. Any 64 KB of information may be construed as

an ECC block, provided some of its usage is for error correction. The Examiner finds a

lack of support for this type of random data generator in the specification for an

interpretation reciting a random data generator for use outside the boundaries of an

optical disk system.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
>
> use or on sale in this country, more than one year prior to the date of application for patent in the United
>
> States.

8.   Claims 1-3, 41-43, 45 are rejected as being anticipated by Matsui, US patent

5,661,707.

In reference to claim 1:

Matsui (Column 8, lines 45-47) discloses a data scrambler for a high density optical

recording/reproducing apparatus, the data scrambler comprising:

a random data generator which generates random data having a random data generation

cycle based on a result obtained by multiplying at least a size of a first data frame by a

result obtained by dividing a data amount of two tracks in an outermost circumference of

the optical disc by a size of a second data frame,

where the random data generator is understood to be apart of the scrambling unit, and the

cycle of the scrambling unit is based on the size of the sector(Column 8, lines 55-60,

Bsect), or the first data frame, multiplied with the number of sectors in the two outermost

tracks (Smax + 1), divided by a second data frame Mloop.

In reference to claim 2:

Matsui(Column 8, lines 45-47) and Matsui(Column 8, lines 19-21) discloses the data

scrambler of claim 1, wherein the size of the first data frame is one sector, and the size of

the second data frame is one error correction block, where the first data frame is the size

of one sector, and the size of the second data frame is Mloop, which is the number of

times a signal can be repeated continuously, correlating to the block scrambling method

in which block size is determined by the size of the error control block.

Applicant cites this on page 2:

"The cycle of random data generation of the random data generator in Fig. 2 is 32K and

matches the 32K size of 1 error correction code block (ECC) block of a DVD.

In reference to claim 3:

Matsui(Column 8, lines 45-67) discloses the data scrambler of claim 1, wherein the

random data generation cycle is at

least as great as the result obtained by multiplying at least the size of the first data frame

by the result obtained by dividing the data amount of the two tracks in the outermost

circumference of the optical disc by the size of the second data frame as such:

Cycle = $(2^x - 1)/8$ * Bsect

And the cycle is at least as great as or (greater than) as shown here

$(Smax/ Mloop) + 1/Dw$ * $Dw <$ Cycle.

By substituting the first computation of cycle into the inequality, we get

$(Smax/ Mloop) + 1/Dw$ * $Dw < (2^x - 1)/(8$ * Bsect$)$

multiplying both sides by Bsect, we get

$(Bsect)(Smax/Mloop) + 1/Dw$ * $Dw < (2^x -1)/8$

The formula disclosed by

Cycle = $(2^x - 1)/8$ * Bsect   Matsui(Column 6, lines 65-67) is the cycle in units of

sectors. Since Bsect is the number of information signal bytes contained in one sector, by

removing this value from the computation of the cycle, you are now expressing the cycle,

not in units of sector, but in length of data.

This formula, which we compute from Matsui,

$(Bsect)(Smax/Mloop) + 1/Dw$ * $Dw < (2^x -1)/8$, thereby expresses the following

the random generation cycle is at least as great as ($<, <=$), the result obtained by

multiplying Bsect, the size of the first data frame where the first data frame is the size of

a sector, obtained by dividing the data amount of the two tracks in the outermost

circumference which = Smax, by the size of an error correction block, which is the

second frame, Mloop.

Claims 41, 43 are rejected for the same reasons as claim 1.

Claims 42 are rejected for the same reasons as claim 2.

Claim 45 is rejected for the same reasons as claims 2 and 1.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 4-16, 20-33 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Matsui and the ECMA-267 standard for 120mm DVD ROMs..

In reference to claim 4:

Matsui does not explicitly disclose the data scrambler of claim 1, wherein the random

data generator comprises:

- registers, serially arranged, which shift-store n bits and generate random data, and

  uses a total of n values as initial values, including a first initial value, first register

  values, which are output after shifting the first initial value 7 times, a second

  initial value immediately after a capacity required for return of the first initial

value and the first register values, and second register values which are output

after shifting the second initial value 7 times; and

- a first serial logic circuit having a plurality of logic gates, which exclusive-OR

    outputs ones of the registers which correspond to a number of effective branches

    with a predetermined branch value, and outputs of neighboring ones of the logic

    gates are fed back to a least significant one of the registers, wherein the data

    scrambler further comprises a second logic circuit which scrambles outputs of a

    predetermined number of least significant ones of the registers and input data in

    units of byte.

Applicant discloses in Fig. 2., a prior art random data generator for use in a scrambling

unit.

Fig. 2 Prior art discloses registers, serially arranged, which shift store n bits and generate ~

random data, using a total of n values as initial values, where the initial values may be

seeds to the RNG, or the actual data which is to be scrambled. The registers are also

expected to store initial register values, usually initialized to expected values by the

scrambling mechanism. This is disclosed in paragraph 3 of the background of the

invention. And additional example is disclosed in ECMA-267, Section 17.

The examiner takes official notice that having a serial logic circuit having a plurality of

logic gates, which exclusive-or outputs one of the registers corresponding to a number of

effective branches with a predetermined branch value, and outputting the neighboring

ones of the logic gates which are fed back to a least significant one of the registers,

wherein the data scrambler further comprises a second logic circuit which scrambles and

outputs a predetermined number of least significant ones of the registers and input data in

units of byte was well known in the art at the time of invention.

This is disclosed in Fig.2, as prior art by the applicant, and furthermore disclosed

by Section 17 of ECMA 267.

It would have been obvious to one of ordinary skill in the art at the time of

invention to have a random data generator comprise registers, serially arranged, shift-

storing n bits, and scrambling the outputs of a predetermined number of least significant

ones of the registers, wherein the data scrambler further comprises a second logic circuit

which scrambles outputs of a predetermined number of least significant ones of the

registers and input data in units of byte, given that it is disclosed in ECMA-267, the

120mm DVD ROM standard and is therefore the expected method in which a DVD-

ROM scrambler should work –that is, creating a single scramble byte and repeating it

2047 times (2k-1), and XORing it with the data given in units of bytes. (2 kilobytes in

the case of ECMA-267)

In reference to claim 5:

Matsui in view of the rejection of claim 4 discloses all of claim 5 except

The data scrambler wherein the random data generation cycle is $2^{16} = 64K$ when n is

16.

It is known in the art that the standard random data generation cycle is typically 32K.

Applicant additionally discloses this in the background of the invention page 3, paragraph

4.

High density DVD's contain twice as much data per side. (ECMA-267 type C , Section

6)

The purpose of having the random data generation cycle at all is scramble the data so that

adjacent tracks do not repeating values. This in turn allows for better tracking control.

Because a standard single sided regular density DVD requires 32K for a random data

generation cycle in scrambling, it would have been obvious to one of ordinary skill in the

art at the time of invention to require a scrambler of a High density DVD with twice as

much data, to require a random data general cycle to be twice as long, or 32K as opposed

to 64K.

In reference to claim 6:

While Matsui does not explicitly disclose an set of initial values for set of

registers or scrambling device to be initialized with, it is known in the art that effective

branch or first register values must be preset to some hexadecimal value. ECMA 267

Section 17, for example discloses in table 3, a set of values for initialization.

It would have been obvious to one of ordinary skill in the art at the time of

invention to disclose any set of hexadecimal initialization values given that the branch

values and first register values would have to be preset to something.

Claims 7, 10, 11, 14 are rejected for the same reasons as claim 6.

In reference to claim 8:

Matsui and ECMA-267 fails to explicitly disclose a data scrambler in which

A first initial value and register values are supplied 4K times left-shifting of the first

initial value.

However in the case of a HD DVD, which contains twice as much data as a DVD

(ECMA-267 type C , Section 6), it would expected that each sector would contain 4K

bytes instead of 2K bytes.

The reason why the initial values and register values were shifted 2K times in the

(ECMA-267 Section 17) scrambling system is because for each sector of data, a

scrambling block of corresponding size must be produced.   While the 8bit shift is

repeated 2047 times(2k) times for a standard DVD, it would logically be repeated 4k

times for a High density DVD, to provide an adequate size scrambling block to scramble

a single sector.

It would have been obvious to one of ordinary skill in the art at the time of invention to

have the n values as initial values, including a first initial value and register values

supplied in each 4K times left-shifting of the first initial value, in a High density DVD, in

order to scramble each sector.

Claim 9 is rejected for the same reasons as claim 5.

In reference to claim 12:

Matsui fails to explicitly disclose the data scrambler of claim 1, wherein the random data generator changes the effective branch value in units of a first cycle and generates a second cycle of the random data according to a control value.

(Section 17 and Section 18 of ECMA-267) discloses a random data generator changing the effective branch value in units of a first cycle, where the first cycle is an ECC block, and the branch value is changed when the 16 values of the shift registers need to be "reseeded".

A second cycle of the random data is generated according to the control values, the initial seed values, as depicted in Table 3.

It would have obvious to one of ordinary skill in the art at the time of invention to devise a data scrambler, wherein the random data generator changes the effective branch value in units of a first cycle and generates a second cycle of the random data according to a control value, because it is disclosed by the ECMA-267, the 120mm DVD ROM standard and is therefore the method in which a DVD-ROM scrambler would be expected to should work.

In reference to claim 13:

(Section 17 and Section 18 of ECMA-267) discloses a data scrambler where the first cycle corresponds to an ECC block, and the second cycle corresponds to a sector, where the first cycle branch is changed when the initial pre-set values need to be reseeded, and the second cycle corresponds to the one sector of data (for k = 0 to 2047)

Claim 13 is rejected for the same reasons as claim 12.

In reference to claim 15:

Claim 15 is rejected for the same grounds as claim 4, the embodiment of claim 4 only

lacking a decoder which supplies 12 output bits.

It would have been obvious to one of ordinary skill in the art to use a twelve bit

decoder, rather than a 15 or 16 bit decoder as a matter of design choice.

In reference to claim 16:

Matsui fails to disclose a data scrambler where initial values of the registers are newly set

in each error correction block.

(ECMA-267 Section 17) discloses a data scrambler where initial values of the registers

are newly set in each error correction block, where each initial value is set as byte 0 of

the 2047 bytes that will be scrambled and set into the ECC block.

It would have been obvious to one of ordinary skill in the art the have the initial values of

the registers set in each error correction block, since it is the same method as disclosed in

ECMA-267, the 120 mm DVD-ROM standard, and consequently would be expected by

all members of DVD consortium that adhere to the standard.

In reference to claim 23:

Although Matsui does not explicitly set sizes for the first data frame, the second data

frame, or even the amount of data in the two tracks of the outermost circumference, it

would have been obvious to one of ordinary skill in the art, that an optical disk, and the

size of a first data frame(the sector), and the size of the second data frame(the error

correction block), may be set to any given value, provided that a manufacturer desired to

support optical discs with those specific preset frame sizes.

Claims 24 and 25 are rejected for the same reasons as claim 23.

Claim 26 is rejected for the same reasons as claim 5.

In reference to claim 27:

Matsui discloses all of claim 27 except a data scrambler wherein:

(ECMA 267 Section 17) discloses a data scrambler wherein the initial values are

determined by an upper 4 bits of a last byte in a 4 byte identification code which is

allocated in each of a plurality of the first data frames.

"The initial preset values of the shift register is equal to the value represented by bits b7

to b4 of the ID field of the data frame" The 4-byte ID field is disclosed in Figure 16 of

Section 16 of ECMA-267

It would have been obvious to one of ordinary skill in the art at the time of

invention to determine the initial values for the data scrambler as disclosed by applicant,

since it is the same method as disclosed in ECMA-267, the 120 mm DVD-ROM

standard, and consequently would be expected by all members of DVD consortium that

adhere to the standard.

Claims 28, 29 are rejected for the same reasons as claim 27.

Claim 33 is rejected for the same reasons as claim 8.

Conclusion

11.   The following art not relied upon is made of record:

- US patent 6125100 discloses an optical disk apparatus for improved error

   correction capability based on a 64K encoding block.

12.   In responding to those requirements that require copies of documents, where the

document is a bound text or a single article over 50 pages, the requirement may be met by

providing copies of those pages that provide the particular subject matter indicated in the

requirement, or where such subject matter is not indicated, the subject matter found in

applicant's disclosure.

The applicant is reminded that the reply to this requirement must be made with

candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot

readily obtain an item of required information, a statement that the item is unknown or

cannot be readily obtained may be accepted as a complete reply to the requirement for

that item.

This Office action has an attached requirement for information under 37 CFR

1.105. A complete reply to this Office action must include a complete reply to the

attached requirement for information. The time period for reply to the attached

requirement coincides with the time period for reply to this Office action.

13.   THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of
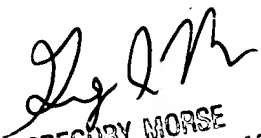
time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of the final action and the advisory action is not

mailed under after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension pursuant to 37 CFR 1.136(A) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thomas M Ho whose telephone number is (703)305-

8029. The examiner can normally be reached on M-F from 8:30am – 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Gregory A. Morse can be reached at (703)308-4789. The fax phone numbers

for the organization where this application or proceeding is assigned are (703)746-7239

for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703)306-

5484.

TMH

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

March 4th 2005